

ABSTRACT OF THE DISCLOSURE

A multiphoton excitation scanning laser microscope employs a laser beam source for oscillating a pulse laser beam having a wavelength range. A multiphoton excitation phenomenon takes place in a sample irradiated with the laser beam so as to emit a fluorescent light. An optical system for forming an optical path of the laser beam includes a pre-chirp compensator, a scanning optical unit and a plurality of objective lenses differing from each other in magnification and capable of being selectively arranged on the optical path. The optical system also includes a correcting mechanism for causing the pulse width of the laser beam to be constant on a cross section of the sample in the case of selecting any of the objective lenses. The correcting mechanism includes a plurality of correcting plates capable of being selectively arranged on the optical path.

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